COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This Instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*, AFI 21-101 and AMCSUP1, *Aerospace Equipment Maintenance Management*, and standardizes procedures for the security and accountability for all tools and equipment maintained by the 60th/349th Maintenance Group, 60th/349th Operations Group and all squadrons assigned or attached to Travis AFB.

1. General Responsibilities.

1.1. All squadrons assigned or attached to Travis AFB who perform maintenance requiring the use of tools, equipment or personal equipment (e.g., ear protectors, reflective belts, headsets, etc.) on aircraft parking ramps, taxiways, runways or in aircraft maintenance hangars, must have procedures in place to account for them. Procedures must be detailed enough that if lost tools or equipment are found, they can be returned to the owning squadron.

1.2. Squadron commanders with personnel who use tools on the flight line will ensure all assigned personnel are familiar with lost tool procedures and the tool control program for all tools and equipment used on the flight line or in aircraft maintenance hangars.

1.3. When tools or personal equipment are lost on aircraft parking ramps, taxiways, runways or in an aircraft maintenance hangar, report it to the 60th Maintenance Operations Center (MOC) immediately. MXG squadrons will follow procedures listed in paragraph **8.** of this instruction.

2. User Responsibility.

2.1. Users will inspect all tools and equipment for serviceability prior to use**.** They will never use unserviceable tools i.e., damaged fan stoppers, fan sticks, screwdrivers, hammers, or torque wrenches. Users will ensure all identified discrepancies with tools/equipment are documented on the item's applicable form. Users will use tools only for their intended purpose. Users will never use personal tools not controlled through Composite Tool Kits (CTK) procedures and will not take them on the flight line or in any maintenance areas.

3. Marking/Security.

3.1. Toolboxes, cabinets, roll-aways, or special purpose kits must be available, properly identified, and secured.

3.2. CTKs will be numbered with identification designators listed in **Attachment 4** and all tools inside will be marked to match. Use labels on containers to store tools or equipment where etching is impractical. The tools or equipment in the container do not have to be marked but each item and its quantity must be indicated on the container and on the Master Inventory List (MIL). Place reflective tape on the sides and ends of dispatched and mobility toolboxes.

3.3. Dispatchable CTKs will be locked when left unattended. Tools and equipment are never secured to the exterior of an aircraft. CTKs not within a red line controlled area must be secured to an immovable item when left unattended.

3.4. When individuals are performing maintenance and are not physically present at their dispatched CTK, it will be locked with the key in their possession. When not dispatched, CTKs must be secured in a controlled area with the keys accessible to CTK custodian personnel only.

4. Tool Accountability and Control.

4.1. CTK custodians will use an existing computerized tool accountability system, chits, or AF Form 1297, **Temporary Issue Receipt**, to track and control the location of tools and equipment stored and issued from the tool rooms. Once the Tool Accountability System (TAS) version 2.4 is approved and available from Headquarters AMC, all units will convert over to the new system for tool accountability.

4.2. The owning work center will account for all CTKs and equipment at the end of each shift.

4.3. Individuals involved with job site transfer of tools or equipment will conduct a joint inventory and document the transfer on AF Form 1297. After inventory is complete, hand carry AF Form 1297 to the tool room and give to the CTK custodian. Tools and equipment will not be kept out longer than 24 hours unless required for extended heavy maintenance and approved by the production superintendent.

4.4. CTK custodians will ensure spare and consumable tools are controlled at all times to prevent fraud, waste, and abuse by locking them in a secure place and keeping them separated from tools issued every day.

4.5. Personnel authorized to procure tools will be limited to Officers, NCOs and civilian equivalents that operate and manage support/CTK sections.

4.6. CTK custodians will not etch replacement tools until put into service.

4.7. Expendable and consumable tools such as apex bits and safety wire spools, along with HAZMAT items will be accounted for and will be turned in to the CTK custodian for proper disposal. All CTKs that have HAZMAT materials in them will have appropriate Material Safety Data Sheets (MSDS) inside the CTK.

4.8. Secure all broken tools in a controlled, lockable area, until they are processed for disposal. Ensure all etching is removed from broken tools prior to disposal. CTK custodians will document all removed/broken CTK items on the appropriate form or computer information system.

4.9. To control items such as crimpers, lead seals, and blade blending blue dye, issue as a kit for their intended use.

5. Tool Room, CTK Inventory Procedures.

5.1. Individuals and CTK custodians will conduct a visual inventory of all tools/equipment at the time of issue and turn-in. Individuals signing out tools/equipment are responsible for all tools issued and damage to them until relieved by the CTK custodian at turn-in. Individuals signing out tools/equipment are required to document any discrepancies with the items on the AFTO Form 244, **Industrial/ Support Equipment Record** and to notify the CTK custodians at time of turn-in.

5.2. Support section supervisors and CTK custodians will conduct and document a detailed inventory every 30 days, to include etching, serviceability checks, and accuracy of the master inventory list for all tools and equipment in the tool room. This inventory will include all tools and equipment used or maintained in a decentralized location. The two most current inventories must be kept on file at all times.

5.3. Mobility and crash recovery tools and equipment can be sealed and stored until needed. While in storage these items will be inspected at a minimum of 180-day intervals. These items must be tamper proof sealed, and stored in a secure location. A thorough inspection will be performed prior to placing crash recovery and mobility CTK or equipment into service and returning them back to storage. All mobility CTK and equipment will be inspected at 30-day intervals at deployed locations.

5.4. Crash recovery tools and equipment will be part of the Aero-Repair (A/R) shop main inventory and must meet the requirements of this instruction if applicable. The A/R shop will identify these items as being sub-located to the crash recovery trailer.

5.5. Due to shortages of people it might be necessary for a single person to sign in and sign out a CTK. If this should become necessary, at the start of the next work shift the shift supervisor will inventory the CTK prior to the individual leaving the work area. This inventory must be documented.

5.6. CTKs and peculiar test equipment stored outside of a centralized tool room are subject to the same security, inspection, and accountability requirements as tools location within the centralized facility. CTKs will be locked when unattended, and the keys controlled by the CTK custodian or tool room manager.

6. Rag Control.

6.1. Work centers will treat rags as issued equipment. CTK custodians will not issue more than 10 rags to an individual at one time. At no time will rags be used to plug holes or ports on aircraft or sub-assemblies.

6.2. Rags received from a supplier will be counted upon receipt and annotated in a log. The number of rags placed in bins for contract cleaning will also be annotated on the log to ensure accountability.

7. Missing/Removed Tools.

7.1. Any tool missing/removed from the CTK, i.e., in PMEL, broken or backordered will be documented on the individual MIL and in the tool room on a "damaged or missing" tool log (may be automated).

8. Lost Tools.

8.1. All personnel will initiate a lost tool investigation report for any lost or missing tools, CTKs, test equipment, aircraft parts, technical data, or any personal issue items anywhere on an aircraft or in an industrial aircraft maintenance area. The individual who identifies a tool is missing will notify the expeditor/production supervisor, or section/shop supervisor immediately and place a RED X symbol on the appropriate aircraft or equipment maintenance forms. Production supervisor or section/shop supervisor will put together a team and initiate an in-depth search over the area where the tool was last seen. If the tool is not found within one hour of searching, initiate a lost tool investigation report using 60 AMW Form 514, **Lost Tool Report** and follow procedures outlined in AFI 21-101 and AMCSUP1 to document the lost tool investigation.

8.2. When the item is lost by a flight crew member the aircraft commander will place a red "X" in the aircraft forms along with a description of the item and a specific last-known location.

8.2.1. The aircraft commander will immediately notify the proper expediter/production supervisor of the lost item and request a 60 AMW Form 514 if it is not located within one hour of searching. **8.2.2.** The aircraft commander will ensure the 60 AMW Form 514 report is complete and accurate prior to giving to the production supervisor.

8.2.2. If at any time during the investigation the item/tool is found and retrieved, or found but is inaccessible, the aircraft commander will notify the maintenance operations officer and or superintendent, MOC and QA.

8.3. If tool/equipment is not found within one hour, production supervisors, or section/shop supervisors will immediately notify their maintenance supervision, support section, MOC and MXQA of a lost tool. MOC will be responsible for notifying the 60 MXG/CC or designated representative of the lost tool and request impoundment guidance. On taxiing or departed aircraft, MOC-1 will be responsible for ensuring the aircraft commander, 60 MXG/CC and the OG/CC are immediately notified of the lost tool. Maintenance supervision will determine when the search may be discontinued and will ensure MOC is notified. Authorization to clear red-Xs when a tool cannot be located is limited to no lower than maintenance supervision.

8.4. Squadron tool rooms will ensure the AFTO Form 95, **Significant Historical Data** has been routed and filled out correctly and will file for a minimum of one year. Squadron CTK personnel will forward a copy to the squadron safety NCO. The squadron safety NCO will ensure the 60 MXG safety office receives a copy of all lost tool reports from their squadron. If the item is lost on an aircraft or engine and not found, 60 MXG safety will forward an additional copy to PS&D (aircraft) or engine management (engines) to file in aircraft jacket file or annotate AFTO Form 95 with the appropriate information.

8.5. Whenever tools/equipment are found on an aircraft, notify maintenance supervision, MOC, QA and the affected support section. MOC will notify MXG/CC or designated representative. If the tool/ equipment belongs to a squadron located on Travis AFB, that custodian will ensure the original 60 AMW Form 514 is annotated and routed back through the established channels as prescribed in AFI 21-101 and AMCSUP1. Contact 60th Maintenance Group Safety (MXQS) for historical data concerning lost or missing tool information.

9. Personal Equipment.

9.1. All issued personal equipment (i.e. ear defenders, headsets, reflective belts, goggles) will be either etched or permanently marked legibly with the owning individual's last name, unit, and employee number at the time of issue. Personal equipment not issued or controlled through CTK procedures are not authorized on the flight line or in any maintenance area (mini-mag flashlights, leatherman).

10. Special Tools and Test Equipment.

10.1. Flight/Section Chiefs are responsible for ensuring their special tools and test equipment are inspected at a minimum every 180 days for serviceability. These inspections will be accomplished by the CTK custodians or the lead techs in their respective AFSCs.

11. Locally Manufactured Tools.

11.1. Quality Assurance Office (MXQA) will coordinate on all locally manufactured tools to determine if they require group commander approval based on requirement in AFI 21-101 and AMCSUP1. A copy of each approval package with picture and drawing will be maintained in MXQA and formatted per the example in **Attachment 2** and **Attachment 3** .

11.2. Units will submit a listing to MXQA of all approved modified or locally manufactured tools by Jan 31of each year. QA will cross-check with those on file within 30 days to evaluate for applicability and current configuration.

11.3. Locally manufactured tools coordination package must be kept on file in the owning squadrons work center.

12. Warranted Tool Management.

12.1. CTK custodians will manage warranted tools and equipment in the same manner as other tools and equipment IAW AFI 21-101 and AMCSUP1, and follow tool manufacturer's warranty guidelines.

12.2. When warranted tools or equipment are no longer serviceable, they will be verified by the CTK custodian and documented on an unserviceable log. The unserviceable log will be maintained until the item is disposed of. The tools/equipment will then be placed in a secure area until processed in accordance with manufacturer/contractor instructions. Maintenance and disposition of records will be in accordance with AFMAN 37-123, *Management Records* and AFMAN 37-139, *Records Disposition Schedule.*

13. Other Agencies.

13.1. Depot teams, factory representatives, contract field teams, and other agencies that work on aircraft or unit equipment will follow guidance listed in this instruction. MXQA representatives will brief the agencies on proper procedures for tool and equipment control prior to work starting and will monitor throughout for compliance.

14. Environmental Impact Analysis Process.

14.1. All changes made to hazardous waste/materials storage areas located within the tool storage or support section areas identified in the Travis Air Force Base environmental impact plan will be coordinated through 60 CES/CEV.

14.2. When proposing changes to wing operations creating potential for environmental impact, submit an AF Form 813, **Request for Environmental Impact Analysis** to 60 CES/CEVP to request an Environmental Impact Analysis Process (EIAP) assessment.

15. Adopted Forms: AF Form 813, **Request for Environmental Impact Analysis,** AF Form 1297, **Temporary Issue Receipt,** AFTO Form 244, **Industrial/Support Equipment Record,** AFTO FORM 95, **Significant Historical Data.**

16. Prescribed Form: 60 AMW Form 514, **Lost Tool Report.**

ALLARD CARNEY, Colonel, USAF
Director of Wing Staff

Attachment 1

GLOSSARY OF REFERENCE AND SUPPORTING INFORMATION

References

AFPD 21-1, *Managing Aerospace Equipment Maintenance*

AFI 21-101 and AMCSUP1, *Aerospace Equipment Maintenance Management*

Attachment 2

SAMPLE DRAWING

ITEM	PART NO.	QTY	STOCK NUMBER
Switch, toggle	2TL1-3	1 ea.	5930-00-655-4241
Wire	M22759/3-20-9	12 inches	6145-01-023-9263
Element Lead	35301-117	2 ea.	6105-01-120-7602
Element	35518-23	1 ea.	6685-00-890-8410
Element	35518-65-310	1 ea.	1680-01-209-1417
Overheat Splice	CTL-20-513	2 ea.	5935-01-172-1354
Alligator Clip	334 Black	1 ea.	5999-00-823-3153
Box	Local Manufacture	1 ea.	5 in. X 2 in. X 4 in.

Left Side View
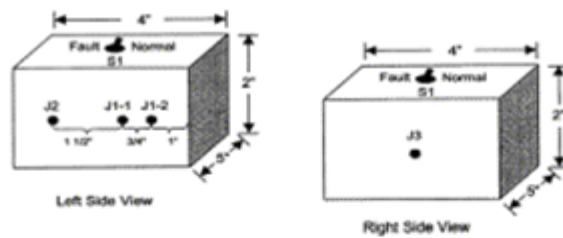
Right Side View

NOTE

1. ¼" diameter holes for side wires, ½" diameter hole for top switch
2. Center S1 switch on the top of the box
3. Center J3 hole on the right side of the box
4. J1-1, J1-2, and J2 holes are drilled on the left side of the box, 1" from the top
5. For descriptions of S1, J1-1, J1-2, J2, and J3, see Table 4-8
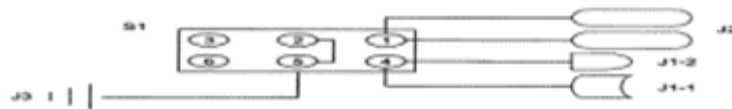
Attachment 3

LOCALLY MANUFACTURED TOOL (OR EQUIPMENT) REQUEST

MEMORANDUM FOR 60 MXG/MXQ
FROM: (requesting Work Center)
SUBJECT: Locally Manufactured Tool (or Equipment) Request

1. Requester Rank, Name, Work Center and Duty Phone:
2. Type aircraft or equipment to be used on
3. Subsystem tool or equipment is designed for
4. Name/Nomenclature/NSN/quantity and cost
5. Application

                                        NAME, Rank, USAF
                                        Duty Title

1st Ind, 60 MXG/QA

MEMORANDUM FOR 60 MXG/CC

    Quality Assurance concurs/non-concurs with the use of the above-mentioned locally
manufactured tool.

                                        NAME, Rank, USAF
                                        QA Chief/Superintendent

2nd Ind, 60 MXG/CC

MEMORANDUM FOR (unit sending request)

I approve/disapprove the use of the above-mentioned locally manufactured tool.

NAME, Rank, USAF
Commander

Attachment 4

COMPOSITE TOOL KIT (CTK) NINE DIGIT IDENTIFICATION SYSTEM

Work centers are numbered as follows:

60 MXG/MXQ:

Quality Assurance: TPQA #####

Aircraft Repair Enhancement Program: TPQP #####

60 CMS:

Accessories Flight

Fuel Cell: TPCF #####

Pneudraulic: TPCP #####

Electro-Environmental: TPCE #####

Avionics Flight

Guidance and Control: TPGC #####

Communications/Navigation: TPCN #####

Electronic Warfare: TPEW #####

Propulsion Flight

APU/GTU: TPPE #####

Trailer Maintenance: TPTM #####

Test Cell: TPPT #####

TF 39: TP39 #####

C-5 Dock: TPPD #####

TMDE Flight

PMEL: TPPL #####

60 EMS:

Munitions: TPMW ######

Structural Repair/Corrosion: TPFB #####

Aircraft Metals Technology: TPFA #####

Survival Equipment: TPFC #####

NDI: TPFN #####

Refurb: TPTR #####

C-5 ISO: TPTG #####

Aero Repair: TPTA #####

AGE Insp/Repair/: TPGR #####

AGE Servicing: TPKS #####

AGE Production: TPGP #####

60 AMXS:

Aircraft Maintenance Squadron: TP60 #####

660 AMXS:

Sortie Generation Flight: TP66 #####

COMBS KC-10: TPGS #####

COMBS: TPKC #####

60 MOS: MQTP: TPTQ #####

373 TRS: Detachment 14: TPTD #####

60 OSS: 6th Life Support: TPDO #####

          9th Life Support: TPOL #####

60 MXG: Transient Maintenance: TPQT #####

615 AMOG: TP15 #####